

Date: Thursday, 17/04/2008 10:59:34 AM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b>	: CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b>	: AFT CROSSTUBE
<b>Job Number</b>	: 38668		
<b>Estimate Number</b>	: 10377		
<b>P.O. Number</b>	:	<b>Part Number</b>	: D2890
<b>This Issue</b>	: 17/04/2008	<b>S.O. No.</b>	:
<b>Prsht Rev.</b>	: NC	<b>Drawing Number</b>	: D2890 REV B
<b>First Issue</b>	: / /	<b>Project Number</b>	: N/A
<b>Previous Run</b>	: 38667	<b>Drawing Revision</b>	: B
<b>Written By</b>	:	<b>Material</b>	:
<b>Checked &amp; Approved By</b>	: <u>JLD 08.4.19</u>	<b>Due Date</b>	: 30/05/2008
<b>Comment</b>	: Est. D 05.03.21 Removed Bending procedures KJ/JLM		

Qty: 1 Um: Each

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
----------------	------------------------------	----------------------

1.0	D6008180	Crosstube Extrusion
-----	----------	---------------------



**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part #	Description	Batch
1	D6008-180	Crosstube extrusion	B40271

DP 8-7-23

2.0	BENDING	BENDING MACHINE - SKIDTUBES
-----	---------	-----------------------------



**Comment:** BENDING MACHINE

1-Bend D2890 as per Dwg D2890 and Folio FT002

DP 8-7-23

3.0	QC6	DIMENSIONAL CHECK
-----	-----	-------------------



**Comment:** DIMENSIONAL CHECK

08.07.23 @

4.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
-----	-------------	-----------------------



**Comment:** LANDING GEAR RESOURCE 1

1-Deburr and Polish

N/A

5.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
-----	-----------------	----------------------------



**Comment:** HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 17/04/2008 10:59:34 AM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT CROSSTUBE

Job Number: 38668

Part Number: D2890

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



NRA

Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

WYD 38314 (-107)

08-07-23 (1)

8.0

QC21

FINAL INSPECTION/W/O RELEASE



08/07/24

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MF 08-07-24

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

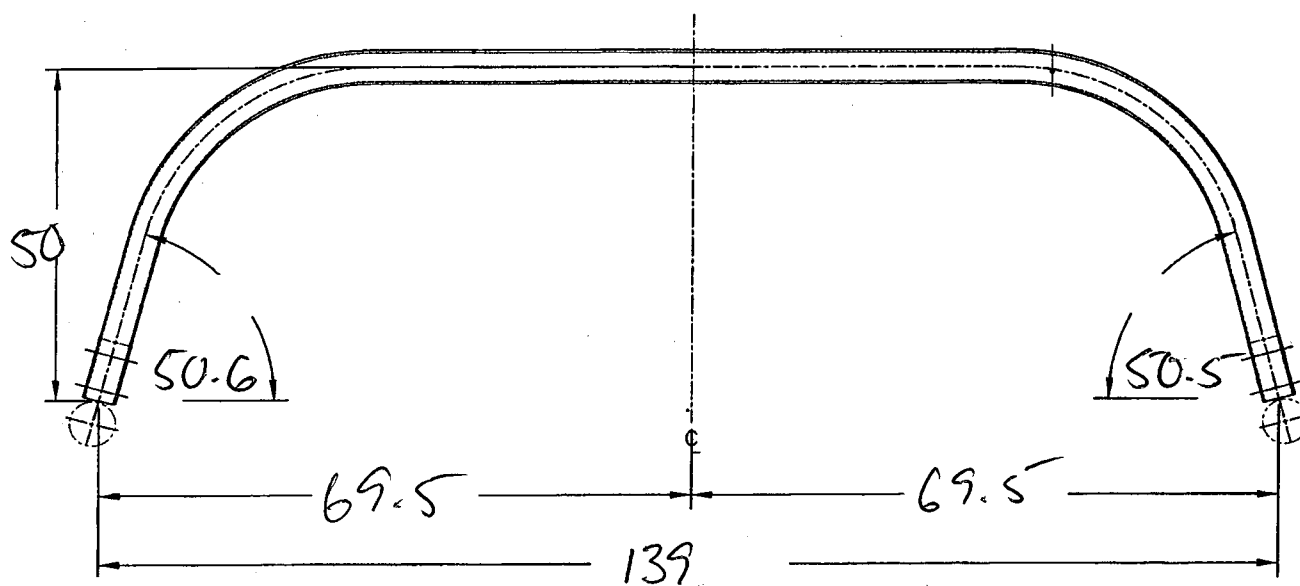
QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 38668
<b>Description:</b> Crosstube Aft		<b>Part Number:</b> D2890
<b>Inspection Dwg:</b> D2890 <b>Rev:</b> B		<b>Page 1 of 1</b>



Required Dimension	Min	Max
Height	49.875	50.125
1/2 Span	69.275	69.525
Angle	49	52
Total Span	138.55	139.05



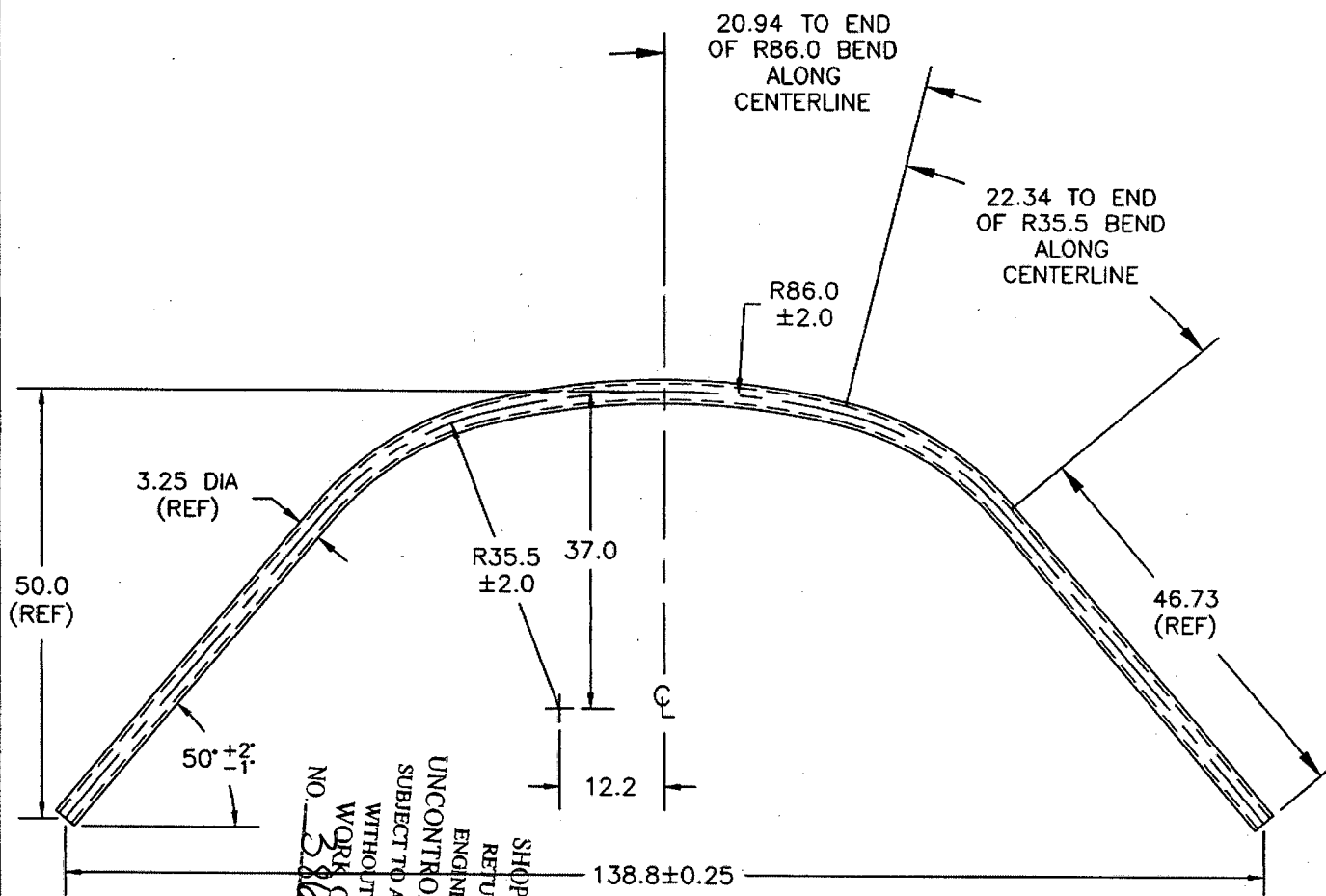
Comments

QC15 Inspection	<i>[Signature]</i>
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM <i>[Signature]</i>	<i>[Signature]</i>

DESIGN		DRAWN BY		DART AEROSPACE LTD HAMKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.		REV. B	
		D2890		SHEET 1 OF 1	
DATE		TITLE		SCALE	
02.10.18		AFT CROSSTUBE		1:20	
A	99.05.21	NEW ISSUE			
B	02.10.18	ADD TANGENT LENGTHS; CHANGE NOTES			

RELEASED  
02.10.28



## NOTES

- 1) MATERIAL: MANUFACTURED FROM D6008-180 ( $\phi 3.25$  OD x 0.438 WALL)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) PART IS SYMMETRIC ABOUT CENTERLINE
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) BEND PROGRESSIVELY WITH MINIMUM OF 3 PASSES
- 6) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER NO. 38668

**Copyright © 1999 by DART AEROSPACE LTD**

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

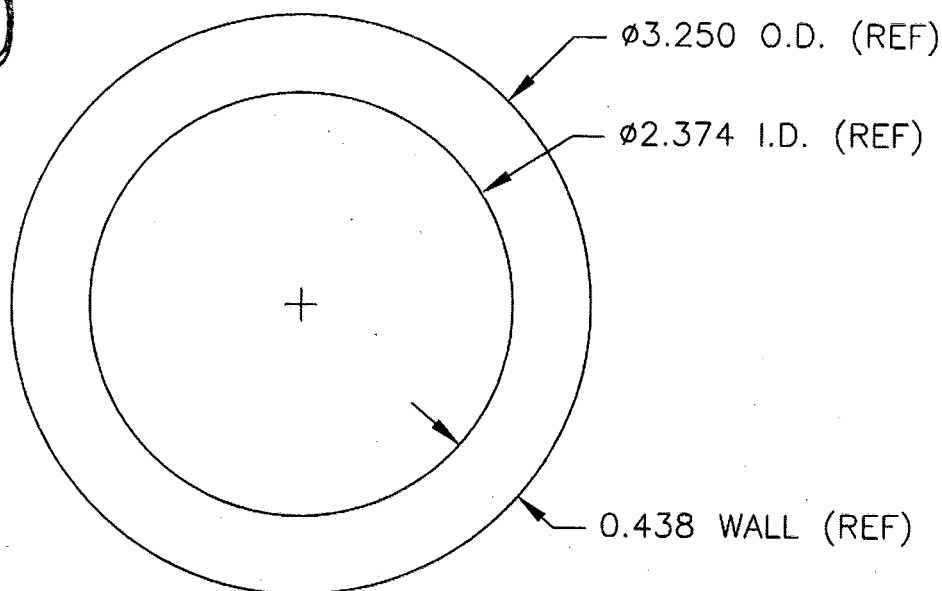
Copyright © 1999 by DART AEROSPACE LTD



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D6008	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING

**RELEASED**  
00.11.24 *[Signature]*



### NOTES

- 1) D6008-XXX CROSSTUBE  
LENGTH

WHERE XXX IS LENGTH IN INCHES  
EG. 180" LONG TUBE: D6008-180

- 2) MATERIAL: 3.250 OD x 0.438 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.  
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi  
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:  
O.D.:  $\pm 0.008$  MEAN ( $\pm 0.016$  INCLUDING OVALITY)  
WALL:  $\pm 0.020$  MEAN ( $\pm 0.044$  INCLUDING ECCENTRICITY)  
LENGTH: XXX  $+0.125/-0.000$   
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 38668

Copyright © 2000 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.